

FIG. 1

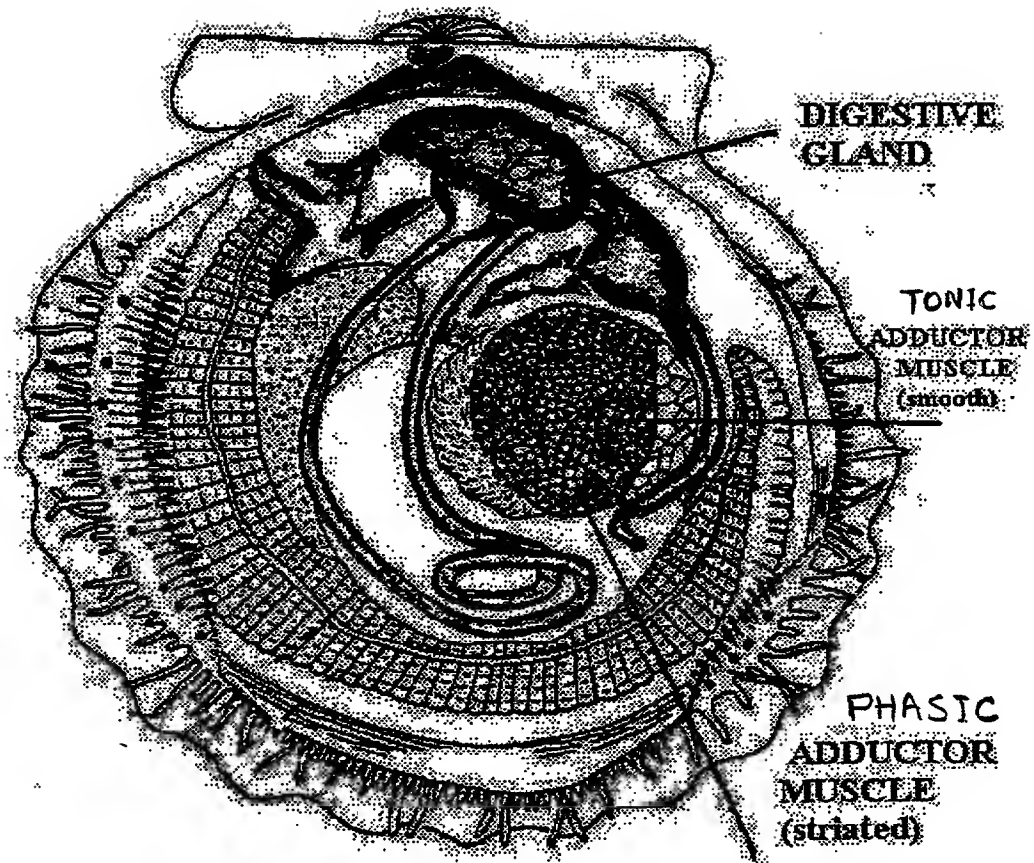
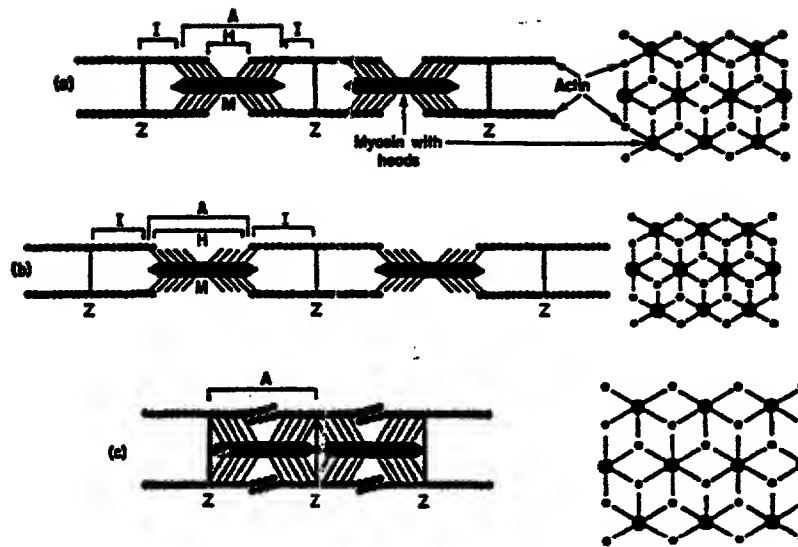
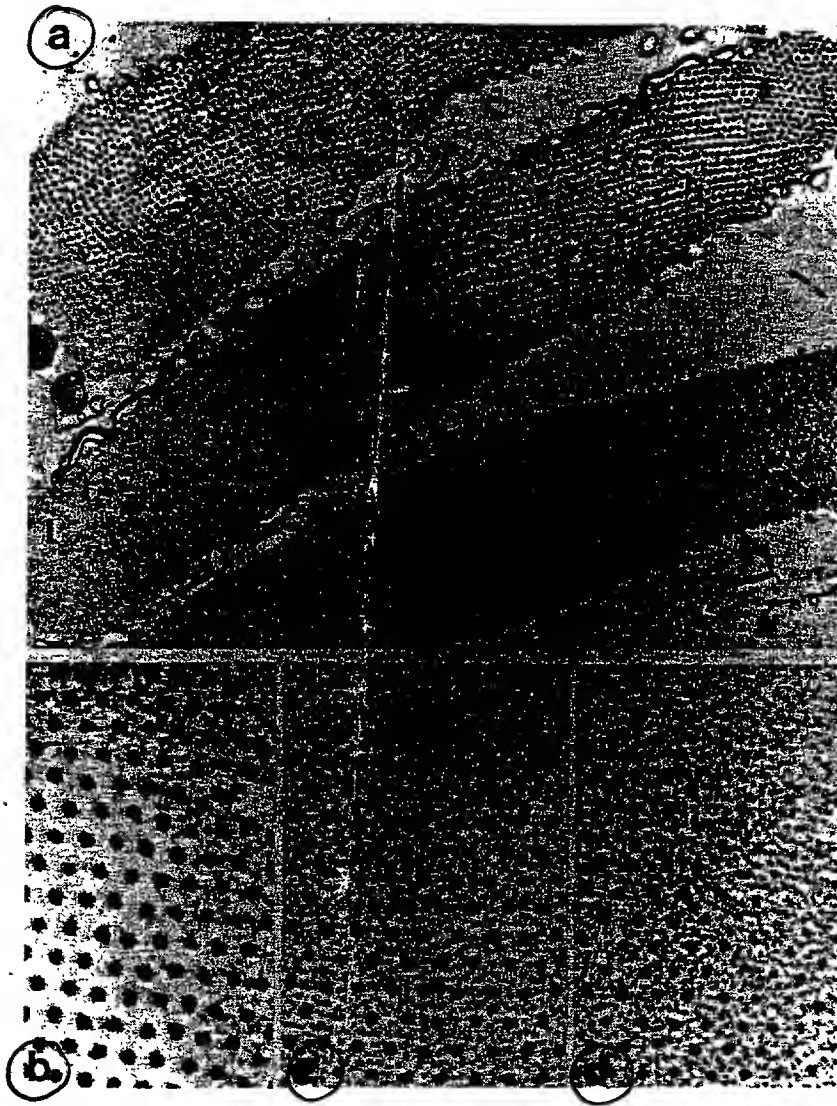


FIG. 2



Schematic of sarcomeric structure as seen in a typical striated muscle fiber. Longitudinal views through two sarcomeres (seen on the left) are compared with cross-sectional views through the A-band (seen on the right) at three different sarcomeric lengths. a). Sarcomeres at rest length ( $l_0$ ). b). Sarcomeres at stretched to  $1.3 l_0$ . c). Sarcomeres contracted to  $0.6 l_0$ . The locations of the A-band, I-band, H-zone, M-line and Z-line are indicated. Note the decrease in spacing between thin and thick filaments as a function of increasing sarcomere length. Adapted from "Muscles, molecules and movement", by J.R. Bendall (1969). Heinemann Educational Books Ltd.

FIG. 3 (a)-(d)



Structure of the striated adductor muscles as seen in the Atlantic scallops. a). Low magnification transverse section showing the elongated profile of the muscle fibers and the appearance of the filaments at different regions in the sarcomere. B, bare zone; H, part of the H-zone where the thick filaments show projections; I, I-band; O, region where the thin and thick filaments overlap. Magnification: 25,000x. b). High-magnification transverse section of the bare-zone region of the sarcomere. Magnification: 110,000x. c). High-magnification transverse section through the overlap region. Magnification as in b. d). High-magnification transverse section through that part of the I-region where the thick filaments have a decreasing diameter. Magnification as in b. Micrographs reproduced, with permission of the publisher, from Millman and Bennett, 1976.

# TABLE I

Commercial or potentially commercial scallops, indicated by an asterisk (\*), listed with their phylogenetically closest living relatives. The closest inferred relationships are within clusters of species separated by narrow lines, the order of listing within these clusters indicating inferred phylogenetic distance. Broad lines separate suprageneric groups.

TABLE 1

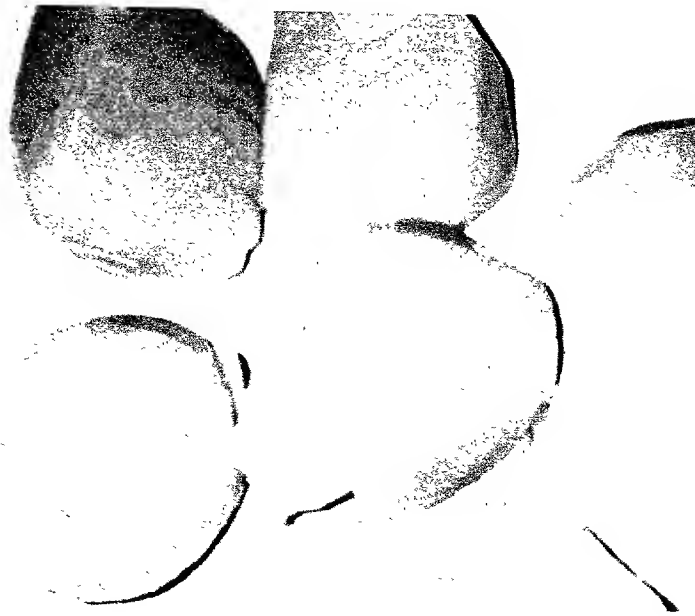
| SUPRAGENRA         | SPECIES  | REGION                          |
|--------------------|--|---------------------------------|
|                    | <i>C. HLAMYS TEHUELCHA</i>                                 | SW ATL                          |
|                    | <i>CHLAMYS PATAGONICA</i>                                  | SW ATL                          |
| <i>Chlamys</i>     | <i>Chlamys islandica*</i>                                  | Subarct. North Atl.             |
|                    | <i>Chlamys rubida</i>                                      | NW & NE North Pac.              |
|                    | <i>Chlamys behringiana</i>                                 | Subarct. North Pac.             |
|                    | <i>Chlamys albida</i>                                      | Subarct. North Pac.             |
|                    | <i>Chlamys hastata pugetensis</i>                          | NE North Pac.                   |
|                    | <i>Chlamys hastata hericia</i>                             | NE North Pac.                   |
|                    | <i>Chlamys hastata hastata</i>                             | NE North Pac.                   |
|                    | <i>Crassadoma gigantea*</i>                                | NE North Pac.                   |
|                    | <i>Chlamys farreri*</i>                                    | NW North Pac.                   |
|                    | <i>Chlamys squamata</i>                                    | W South Pac.                    |
|                    | <i>Swiftopecten swifti*</i>                                | E. North Atl.                   |
|                    | <i>Semipallium</i> spp.                                    | Indo-West Pac.                  |
|                    | <i>Manupecten pesfelis</i>                                 | E North Atl. (Medit.)           |
|                    | <i>Mizuhopecten yessoensis*</i>                            | NW North Pac.                   |
|                    | <i>Patinopecten caurinus*</i>                              | NE North Pac.                   |
|                    | <i>Zygochlamys patagonica*</i>                             | SE South Pac.                   |
|                    | <i>Zygochlamys delicatula*</i>                             | SW South Pac.                   |
|                    | <i>Chlamys dichroa</i>                                     | SW South Pac.                   |
|                    | <i>Equichlamys bifrons*</i>                                | SW South Pac.                   |
|                    | <i>Notochlamys</i> spp.                                    | SW South Pac.                   |
| <i>Mimachlamys</i> | <i>Mimachlamys varia*</i>                                  | E North Atl. & Medit.           |
|                    | <i>Mimachlamys senatoria*</i>                              | Indo-West Pac.                  |
|                    | <i>Mimachlamys crassicostata</i><br>(+ <i>M. nobilis</i> ) | NW North Pac.                   |
|                    | <i>Mimachlamys asperima*</i>                               | Indo-W. Pac. (mainly Australia) |
| <i>Aequipecten</i> | <i>Aequipecten opercularis*</i>                            | NE North Atl. & Medit.          |
|                    | <i>Aequipecten glyptus</i>                                 | W North Atl. & G. of Mex.       |
|                    | <i>Aequipecten flabellum</i>                               | E Atl. (Medit. to Angola)       |
|                    | <i>Aequipecten commutatus</i>                              | E Atl. (Medit. & NW Afr.)       |

# TABLE I (continued)

| SUPRAGENIC SPECIES  | SPECIES                                | REGION                                    |
|---------------------|--|---|
|                     | <i>Aequipecten tehuelchus</i> *        | W South Atl.                              |
|                     | <i>Aequipecten exasperatus</i>         | Caribbean                                 |
|                     | <i>Aequipecten muscosus</i>            | W North Atl. (G. of Mex. & Caribbean)     |
|                     | <i>Argopecten irradians</i> *          | W North Atl. & G. of Mex.                 |
|                     | <i>Argopecten gibbus</i> *             | W North Atl. & G. of Mex.                 |
|                     | <i>Argopecten nucleus</i>              | W North Atl. (G. of Mex. & Caribbean)     |
|                     | <i>Argopecten purpuratus</i> *         | E South Pac.                              |
|                     | <i>Argopecten ventricosus</i> *        | SE North Pac.                             |
| <i>Palliolum</i>    | <i>Placopecten magellanicus</i> *      | NW North Atl.                             |
|                     | <i>Pseudamussium sulcatum</i>          | NE North Atl.                             |
|                     | <i>Pseudamussium septemradiatum</i>    | NE North Atl.                             |
|                     | <i>Palliolum tigrinum</i>              | NE North Atl.                             |
| <i>Decatopecten</i> | <i>Flexopecten glaber</i> *            | NE North Atl. & Medit.                    |
|                     | <i>Flexopecten ponticus</i>            | Black Sea                                 |
|                     | <i>Flexopecten flexuosus</i>           | E North Atl. & Medit.                     |
|                     | <i>Flexopecten felipponei</i>          | NW South Atl.                             |
| <i>Pecten</i>       | <i>Amusium pleuronectes</i> *          | Indo-West Pac.                            |
|                     | <i>Amusium japonicum balloti</i> *     | Indo-West Pac. (New Calcd. & Australia)   |
|                     | <i>Amusium japonicum japonicum</i> *   | W North Pac. (Japan & China)              |
|                     | <i>Pecten maximus</i> *                | NE North Atl.                             |
|                     | <i>Pecten jacobaeus</i>                | E North Atl. (Azores & Mediterranean)     |
|                     | <i>Pecten sulcicostatus</i> *          | Off SE South Africa                       |
|                     | <i>Pecten novaezelandiae</i> *         | SW South Pac. (N.Z.)                      |
|                     | <i>Pecten fumatus fumatus</i> *        | SW South Pac. (SE Austr.)                 |
|                     | <i>Pecten fumatus "meridionalis"</i> * | SW South Pac. (Tasmania)                  |
|                     | <i>Pecten modestus</i> *               | SE Indian O. (W Austr.)                   |
|                     | <i>Euvoia ziczac</i> *                 | W North & South Atl., Carib. & G. of Mex. |
|                     | <i>Euvoia laurenti</i> *               | W North Atl. (Caribbean)                  |
|                     | <i>"Euvoia papyraceum"</i> *           | W North Atl., G. of Mex. & Caribbean      |
|                     | <i>Euvoia vogdesi</i> *                | SE North Pac. (Mex. to N Peru)            |
|                     | <i>Euvoia diegensis</i>                | SE North Pac. (Calif., Mex.)              |

FIG. 4

(a)



Atlantic  
Sea  
Scallops

(b)

Regular  
Crab Meat

Lump  
Crab Meat

